Algebra 1   6.6
Solve systems of linear inequalities by graphing
Apply systems of linear inequalities

linear inequality*
system
boundary $y =$
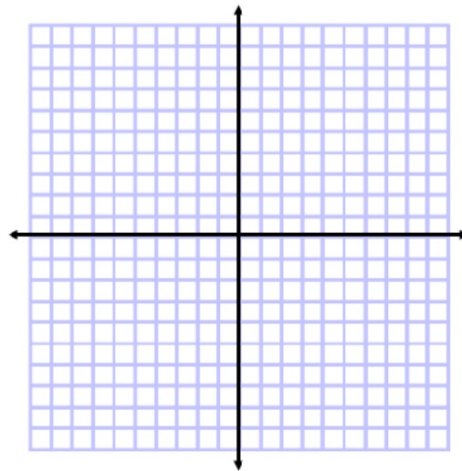<> open $- y- - -$
≤≥ closed _____
y= k (horizontal)
x= k (vertical)
whiteboards

2. -1 + 1 < 4
-2 + 1 < 4
-1 < 4

1B. $2x + y > 2$

$\boxed{2x + y < 4}$

$2x + y = 4$

$-2x \qquad -2x$

$y = \dfrac{-2x}{1} + 4$
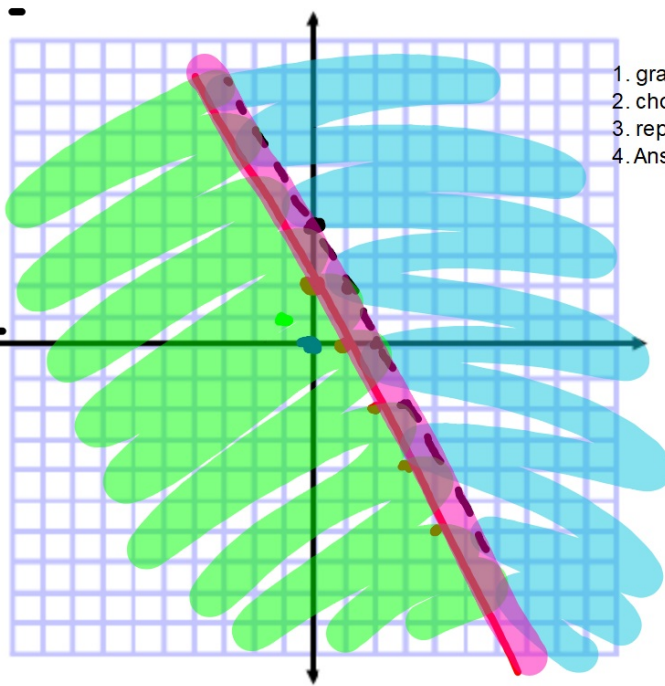
1. graph boundary (solid or dotted?)
2. choose a test point and shade T
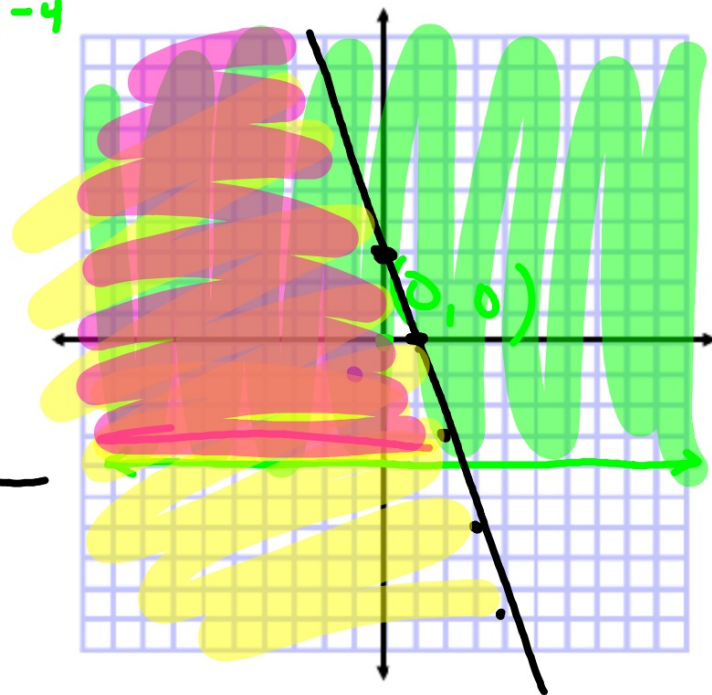3. repeat for other inequality
4. Answer?

$0 \geq -4$

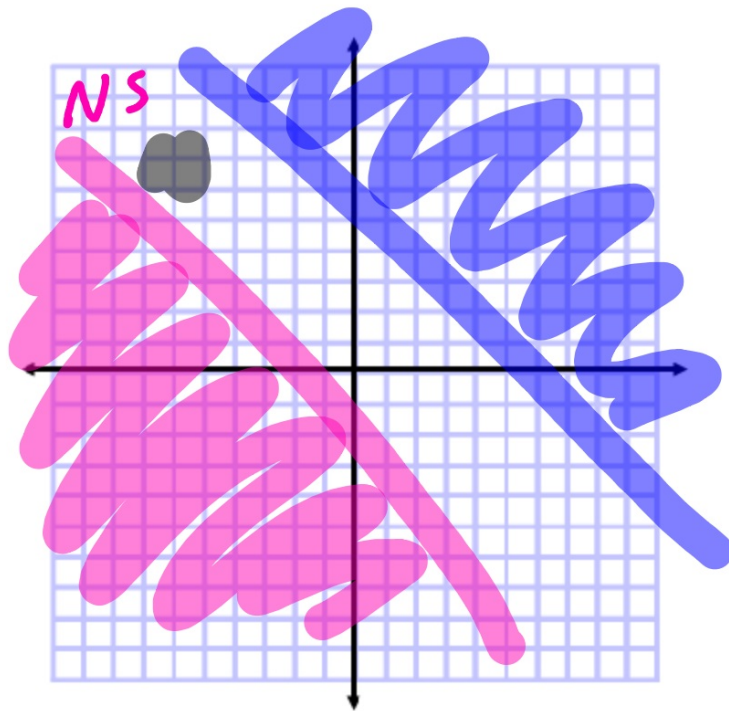$3x + y \leq 2$

$3 \cdot 1 + -1 \leq 2$

$-3 + -1 \leq 2$

$y = -4 \quad -4 \leq 2$

$3x + y = 2$

$-3x \qquad -3x$

$$y = -\frac{3}{1}x + 2$$

(0, 0)

1D. $x + y > 2$
$-4x + 2y < 8$

Where is it shaded by both?

Example 2 No Solution

Solve the system of inequalities by graphing.

$3x - y \geq 2$
$3x - y < -5$
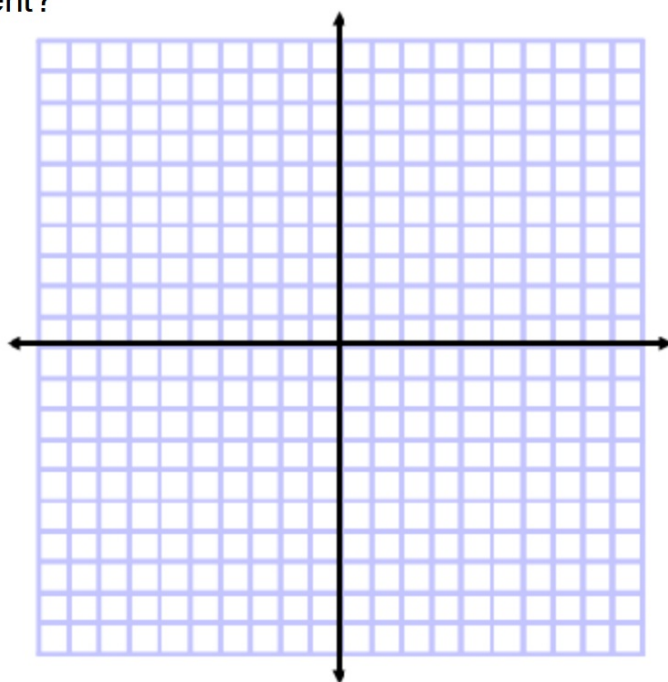
WB prac.
1-6
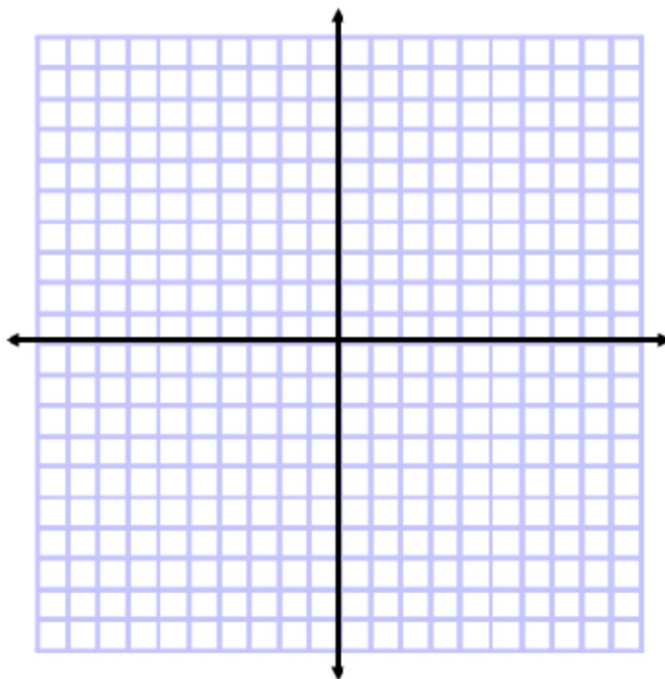
How is this problem different?

2A. $y > 3$

$y < 1$

2B. $x + 6y \leq 2$

$y \geq -\dfrac{1}{6}x + 7$